

AMENDMENTS TO THE CLAIMS

Claims 1-36 have been canceled.

37. (New) A base station for a wireless LAN system realizing band-widening using a plurality of communication channels, the base station comprising:

a plurality of physical layers corresponding to the plurality of communication channels, and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using a corresponding communication channel; and

a media access control (hereinafter, "MAC") layer,

when transmitting, that divides an entire data frame conforming to the IEEE 802.11 standard from a head of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided data frame to the physical layers so that burst times of the communications channels are substantially equal, and

when receiving, that combines data frames received via a plurality of communication channels through operations opposite to those performed when transmitting.

38. (New) The base station according to claim 37, further comprising:

a determining unit that determines the transmission rate of each communication channel, a frame allotment ratio between the communication channels, and a transmission data amount in each communication channel, for the MAC layer to carry out the allotment and the combination corresponding to the plurality of communication channels.

39. (New) The base station according to claim 37, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense

multiple access/collision avoidance (CSMA/CA) protocol.

40. (New) The base station according to claim 37, wherein

for transmission, a frame having a frame length shorter than that of the data frame is not divided and the same frame having a same rate is transmitted to each communication channel, and

for reception, if one frame having a frame length shorter than that of the data frame is received normally, the received one frame is recognized as a frame transmitted from a transmission side.

41. (New) The base station according to claim 37, wherein

if a number of communication channels used is one, the division and the combination are not carried out, and the physical layer corresponding to the used communication terminal transmits and receives the radio signal conforming to the IEEE 802.11 standard.

42. (New) The base station according to claim 37, wherein

equal frames are allowed to be transmitted simultaneously using the plurality of communication channels.

43. (New) The base station according to claim 37, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a polling control.

44. (New) The base station according to claim 37, wherein
the plurality of communication channels are selectable according to a frequency, a space,
or a combination of the frequency and the space.
45. (New) The base station according to claim 37, wherein
if the plurality of communication channels are used, a division number, a total number of
divisions, a Pad insertion method, and information indicating whether a same frame is copied for
the plurality of communication channels are included in the data frame.
46. (New) A base station for a wireless LAN system realizing band-widening using a
plurality of communication channels, the base station comprising:
a plurality of physical layers corresponding to the plurality of communication channels,
and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using
a corresponding communication channel; and
a media access control (hereinafter, "MAC") layer,
when transmitting, that divides a part of a data frame conforming to the IEEE
802.11 standard from a head of the part of the data frame, in accordance with a transmission rate
of each physical layer, and allots the divided part of the data frame to the physical layers so that
burst times of the communications channels are substantially equal, and
when receiving, that combines data frames received via a plurality of
communication channels through operations opposite to those performed when transmitting.

47. (New) The base station according to claim 46, further comprising:
a determining unit that determines the transmission rate of each communication channel,
a frame allotment ratio between the communication channels, and a transmission data amount in
each communication channel, for the MAC layer to carry out the allotment and the combination
corresponding to the plurality of communication channels.
48. (New) The base station according to claim 46, further comprising:
a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense
multiple access/collision avoidance (CSMA/CA) protocol.
49. (New) The base station according to claim 46, wherein
for transmission, a frame having a frame length shorter than that of the data frame is not
divided and the same frame having a same rate is transmitted to each communication channel,
and
for reception, if one frame having a frame length shorter than that of the data frame is
received normally, the received one frame is recognized as a frame transmitted from a
transmission side.
50. (New) The base station according to claim 46, wherein
if a number of communication channels used is one, the division and the combination are
not carried out, and the physical layer corresponding to the used communication terminal

transmits and receives the radio signal conforming to the IEEE 802.11 standard.

51. (New) The base station according to claim 46, wherein
equal frames are allowed to be transmitted simultaneously using the plurality of
communication channels.
52. (New) The base station according to claim 46, further comprising:
a protocol control unit conforming to an IEEE 802.11 standard and using a polling
control.
53. (New) The base station according to claim 46, wherein
the plurality of communication channels are selectable according to a frequency, a space,
or a combination of the frequency and the space.
54. (New) The base station according to claim 46, wherein
if the plurality of communication channels are used, a division number, a total number of
divisions, a Pad insertion method, and information indicating whether a same frame is copied for
the plurality of communication channels are included in the data frame.
55. (New) A radio terminal for a wireless LAN system realizing band-widening using a
plurality of communication channels, the base station comprising:
a plurality of physical layers corresponding to the plurality of communication channels,

and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using a corresponding communication channel; and

a media access control (hereinafter, "MAC") layer,

when transmitting, that divides an entire data frame conforming to the IEEE 802.11 standard from a head of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided data frame to the physical layers so that burst times of the communications channels are substantially equal, and

when receiving, that combines data frames received via a plurality of communication channels through operations opposite to those performed when transmitting.

56. (New) The radio terminal according to claim 55, further comprising:

a determining unit that determines the transmission rate of each communication channel, a frame allotment ratio between the communication channels, and a transmission data amount in each communication channel, for the MAC layer to carry out the allotment and the combination corresponding to the plurality of communication channels.

57. (New) The radio terminal according to claim 55, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense multiple access/collision avoidance (CSMA/CA) protocol.

58. (New) The radio terminal according to claim 55, wherein

for transmission, a frame having a frame length shorter than that of the data frame is not

divided and the same frame having a same rate is transmitted to each communication channel,
and

for reception, if one frame having a frame length shorter than that of the data frame is received normally, the received one frame is recognized as a frame transmitted from a transmission side.

59. (New) The radio terminal according to claim 55, wherein

if a number of communication channels used is one, the division and the combination are not carried out, and the physical layer corresponding to the used communication terminal transmits and receives the radio signal conforming to the IEEE 802.11 standard.

60. (New) The radio terminal according to claim 55, wherein

equal frames are allowed to be transmitted simultaneously using the plurality of communication channels.

61. (New) The radio terminal according to claim 55, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a polling control.

62. (New) The radio terminal according to claim 55, wherein

the plurality of communication channels are selectable according to a frequency, a space, or a combination of the frequency and the space.

63. (New) The radio terminal according to claim 55, wherein

if the plurality of communication channels are used, a division number, a total number of divisions, a Pad insertion method, and information indicating whether a same frame is copied for the plurality of communication channels are included in the data frame.

64. A radio terminal for a wireless LAN system realizing band-widening using a plurality of communication channels, the base station comprising:

a plurality of physical layers corresponding to the plurality of communication channels, and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using a corresponding communication channel; and

a media access control (hereinafter, "MAC") layer,

when transmitting, that divides a part of a data frame conforming to the IEEE 802.11 standard from a head of the part of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided part of the data frame to the physical layers so that burst times of the communications channels are substantially equal, and

when receiving, that combines data frames received via a plurality of communication channels through operations opposite to those performed when transmitting.

65. The radio terminal according to claim 64, further comprising:

a determining unit that determines the transmission rate of each communication channel, a frame allotment ratio between the communication channels, and a transmission data amount in

each communication channel, for the MAC layer to carry out the allotment and the combination corresponding to the plurality of communication channels.

66. (New) The radio terminal according to claim 64, further comprising:
a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense multiple access/collision avoidance (CSMA/CA) protocol.

67. (New) The radio terminal according to claim 64, wherein
for transmission, a frame having a frame length shorter than that of the data frame is not divided and the same frame having a same rate is transmitted to each communication channel,
and

for reception, if one frame having a frame length shorter than that of the data frame is received normally, the received one frame is recognized as a frame transmitted from a transmission side.

68. (New) The radio terminal according to claim 64, wherein
if a number of communication channels used is one, the division and the combination are not carried out, and the physical layer corresponding to the used communication terminal transmits and receives the radio signal conforming to the IEEE 802.11 standard.

69. (New) The radio terminal according to claim 64, wherein
equal frames are allowed to be transmitted simultaneously using the plurality of

communication channels.

70. (New) The radio terminal according to claim 64, further comprising:
a protocol control unit conforming to an IEEE 802.11 standard and using a polling control.
71. (New) The radio terminal according to claim 64, wherein
the plurality of communication channels are selectable according to a frequency, a space, or a combination of the frequency and the space.
72. (New) The radio terminal according to claim 64, wherein
if the plurality of communication channels are used, a division number, a total number of divisions, a Pad insertion method, and information indicating whether a same frame is copied for the plurality of communication channels are included in the data frame.